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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|------------------------------|-----------------------|
| 10/584,082 | 05/15/2007 | Kanji Ohyama | 47635-0027-00-US (228020) | 1480 |
| 55694 | 7590 | 06/29/2010 | EXAMINER | |
| DRINKER BIDDLE & REATH (DC) 1500 K STREET, N.W. SUITE 1100 WASHINGTON, DC 20005-1209 | | | | MCELWAIN, ELIZABETH F |
| ART UNIT | | PAPER NUMBER | | |
| 1638 | | | | |
| NOTIFICATION DATE | | DELIVERY MODE | | |
| 06/29/2010 | | ELECTRONIC | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

DBRIPDocket@dbr.com
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| | | |
|------------------------------|--|--------------------------------------|
| Office Action Summary | Application No. 10/584,082 | Applicant(s) OHYAMA, KANJI |
| | Examiner Elizabeth F. McElwain | Art Unit 1638 |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If no period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED. (35 U.S.C. § 133).

Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) Responsive to communication(s) filed on 31 March 2010.

2a) This action is FINAL. 2b) This action is non-final.

3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) Claim(s) 1-28 is/are pending in the application.

4a) Of the above claim(s) 5-17, 24 and 26-28 is/are withdrawn from consideration.

5) Claim(s) _____ is/are allowed.

6) Claim(s) 1-4, 18-23 and 25 is/are rejected.

7) Claim(s) _____ is/are objected to.

8) Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) The specification is objected to by the Examiner.

10) The drawing(s) filed on 22 June 2006 is/are: a) accepted or b) objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a) All b) Some * c) None of:

1. Certified copies of the priority documents have been received.
2. Certified copies of the priority documents have been received in Application No. _____.
3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) Notice of References Cited (PTO-892)

2) Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) Information Disclosure Statements (PTO/SB/08)
Paper No(s)/Mail Date 6/22/06/5/15/07/6/7/07/7/8/08

4) Interview Summary (PTO-413)
Paper No(s)/Mail Date: _____

5) Notice of Informal Patent Application

6) Other: _____

DETAILED ACTION

Election/Restrictions

1. Claims 5-17, 24 and 26-28 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on March 31, 2010.
2. Claims 1-28 are pending.
3. Claims 1-4, 18-23 and 25 are drawn to the elected invention and are examined on the merits.

Specification

4. The disclosure is objected to because of the following informalities: at page 10, lines 20-23 recite that the nucleotide sequence of the 194th to the 1066th nucleotides of SEQ ID NO: 1 encode an elongase. However, this appears to conflict with other portions of the specification, which assert that the elongase is encoded by SEQ ID NO: 3. Clarification and/or correction is requested.

Appropriate correction is required.

Claim Objections

Claims 18, 19, 20 and 25 are objected to for the recitation of “a gene of claim 1”, which should read “the gene of claim 1.” Correction is requested.

Claims 21-23 are objected to for the recitation of “a plant of claim 20”, which should read “the plant of claim 20.” Correction is requested.

Claim Rejections - 35 USC § 112

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-4, 18-23 and 25 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

7. Claims 1-4, 18-20 and 25, and claims 21-23 dependent thereon, are indefinite in the recitation of "gene", as the term "gene" can be interpreted in a number of different ways, including the requirement for regulatory sequences in addition to the coding sequence, and also introns. And the specification fails to set forth the metes and bounds of this term. It is suggested that the claims be amended to recite "nucleic acid" instead of "gene".

8. Claim 20, and claims 21-23 are indefinite in the recitation of "a progeny of the plant, a vegetatively propagated plant having the same characteristics, or a tissue of the plant", given that it is unclear if and how all of the plants recited in the claim relate to each other or to the first plant in which the gene of claim 1 is expressed. For example, it is unclear what the vegetatively propagated plant is propagated from. Is it propagated from the plant expressing the gene, or from the progeny plant or from some other unidentified plant? Also, what characteristics are "the same characteristics". In addition, what plant is the tissue from?

Claim Rejections - 35 USC § 101

9. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 19-22 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. Claim 19 is drawn to a transformant, wherein a transformant may encompass a transformed human, which is non-statutory subject matter.

In addition, claims 20-22 are drawn to progeny plants, vegetatively propagated plants and tissues of said plants, wherein it is unclear that any of these plants would comprise the nucleic acid of claim 1. Therefore, it is unclear if the claimed plants would be distinguishable from those that would occur in nature.

Claim Rejections - 35 USC § 102

10. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

11. Claims 1-4, 18-23 and 25 are rejected under 35 U.S.C. 102(a) as being anticipated by Kajikawa et al.

12. The claims are drawn to an isolated *Marchantiales*-derived gene that hybridizes under stringent conditions with all or part of SEQ ID NO: 1 or a complementary sequence thereof, and wherein said gene encodes a delta-6 fatty acid desaturase. The specification defines sequences that hybridize under stringent conditions as sequences that are at least 90% identical (see page 20). The claims are also drawn to said gene

13. Kajikawa et al teach a nucleic acid sequence that is identical to at least nucleotides 253-1698 of SEQ ID NO: 1, which encodes a delta-6 desaturase from *Marchantia polymorpha* (see Fig 1, for example and attached sequence alignment). Kajikawa et al also teach said nucleic acid sequence in a recombinant expression vector and transformed into a plant, such as the moss *Pichia pastoris*, which would include the reproductive material of the plant. Kajikawa et al also teach extraction of the fatty acids from the plant and a modified fatty acid composition (see pages 338-339 and 342-343, for example).

Priority

14. Applicant cannot rely upon the foreign priority papers to overcome this rejection because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth F. McElwain whose telephone number is (571) 272-0802. The examiner can normally be reached on increased flex time.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on (571) 272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

EFM

/Elizabeth F. McElwain/
Primary Examiner, Art Unit 1638